UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,859	09/30/2003	Kelly Statham	0153/90550	1877

24628 7590 04/02/2008

WELSH & KATZ, LTD
120 S RIVERSIDE PLAZA
22ND FLOOR
CHICAGO, IL 60606

EXAMINER	
LAO, LUN S	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
04/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/675,859	STATHAM ET AL.	
	Examiner	Art Unit	
	LUN LAO	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11-13-2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is response to the amendment filed on 01-02-2008. Claims 1, 17 and 19 have been amended. Claims 1-20 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01-02-2008 has been entered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the " a microphone; a wireless transmitter that wirelessly transmits an audio signal from the microphone mixed with a pilot tone; and a CPU that digitally encodes the pilot tone with a repeating frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU, said plurality of status indicators disposed within respective predetermined locations of the repeating frame" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because the formal drawing are required (no hand writing). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recited "transmitting data from the transmitter to the receiver of said audio system and storing said data therein, said data including the detected audio signal and a repeating frame of data containing two or more characteristics regarding said transmitter disposed within, respective predetermined locations of the repeating frame". However, the specification does not clearly disclose

the " a repeating frame of data containing two or more characteristics regarding said transmitter disposed within, respective predetermined locations of the repeating frame" will be performed. The examiner can not find any support in the cited area as indicated by the applicant such as "The use of a repeating frame of data is discussed in paragraph [0035] of the specification. The two or more characteristics is discussed in paragraph [0057] and is shown in the repeating frame of FIGs. 9A-C of the specification" which the applicant points out. However, the examiner find neither specification describing "repeating frame" nor in figs 9A-C. It is not supported in the specification nor in any claim originary presented. .

Claims 17 and 19 are essentially similar to claim 1 and rejected for the reason stated above apropos to claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) in view of Shorty (US PAT. US 6,879,806).

Consider claim 1 as best understood with regards to the 112, first problem mentioned above, Shiraishi teaches a method for remotely controlling (see fig.4) a set of functions related to a wireless audio system from a remote central control, said method comprising the steps of:

providing an audio system (fig.4) that includes a transmitter (104,304) and a receiver (105,305);

detecting an audio signal via an acoustic transducer located within the transmitter (see fig. 4 (300));

transmitting data from the transmitter (304) to the receiver (105) of said audio system (see fig.4) and storing said data therein, said data including the detected audio signal two or more characteristics regarding said transmitter.

establishing a link between the receiver of said wireless audio system (fig.4) and a central control for remotely controlling the set of functions through a communication network(reads on 300 in fig. 4 and 100 with speakers network (201-206) and see col. 7 line 44-col. 8 line 18);

determining (see fig.3) whether or not any problems exist (by test tong) by monitoring said data stored in said receiver from said central control; communicating from said remote control to said audio system appropriate remedial actions to alleviate any of said problems (see col. 6 line 13-col. 7 line 42); but Shiraishi fails to teach a repeating frame of data containing two or more characteristics regarding said transmitter disposed within, respective predetermined locations of the repeating frame.

However, Shorty teaches a repeating frame of data containing two or more characteristics regarding said transmitter disposed within, respective predetermined locations of the repeating frame (see fig. 5 and col. 18 line 35-col. 19 line 25 and col.25 line 25-col. 26 line 53).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Shorty into Shiraishi so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claims 2-5 Shiraishi teaches that the audio system comprises a wireless audio system (see fig.4 and see col. 7 line 67); and the wireless audio system comprises a wireless microphone system (300, (306) and see col. 7 line 44-67); and the transmitter comprises a handheld (see fig.6 and see col. 8 lines 33-55); and the transmitter comprises a body pack (see fig.6 and see col. 8 lines 33-55).

Consider claims 7 and 9, Shiraishi teaches that the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored but not controlled (see col. 7 line 15-42); and the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored and controlled (see col. 7 line 44-col.8 line 18).

Consider claim 8 Shirashi as modified by Shorty teaches that said data is selected from a group consisting of: receiver internet protocol address, receiver link address, receiver RF level, receiver AF level (Shorty, see fig. 5 and col. 18 line 35-col. 19 line 25 and col.25 line 25-col. 26 line 53).

Consider claim 10 Shirashi as modified by Shorty teaches that said data is selected from a group consisting of: receiver name, receiver frequency, receiver squelch level, receiver meter hold, receiver antenna power, receiver mute, default display on receiver state, receiver lock condition, receiver load present, and receiver save preset(Shorty, see figs. 1-5. 12 and col. 18 line 35-col. 19 line 25 and col.25 line 25-col. 26 line 53).

Consider claim 12 it is essentially similar to claim 10 and is rejected for the reason stated above apropos to claim 10.

Consider claim 11 Shiraishi teaches that the communicating step includes the step of transmitting replacement data to said receiver that is implemented by said receiver (see fig.4 and col. 7 line 44-col. 8 line 18).

9. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (US PAT. 6,400,935) in view of Shorty (US PAT. US 6,879,806).

Consider claim 17 as best understood with regards to the 112, first problem mentioned above, Williams teaches a wireless microphone system comprising (see fig. 2):

a microphone (66);

a wireless transmitter (10) that wirelessly transmits an audio signal from the microphone (66) mixed with a pilot tone (64); and

a CPU (52 reads on the microprocessor) that digitally encodes the pilot tone with a repeating frame of data containing a plurality of status indicators of the wireless

microphone provided by the CPU (see fig.2 and col.7 line 33-col.8 line 67); but Williams does not explicitly teach said plurality of status indicators disposed within respective predetermined locations of the repeating frame.

However, Shorty teaches said plurality of status indicators disposed within respective predetermined locations of the repeating frame (see fig. 5 and col. 18 line 35-col. 19 line 25 and col.25 line 25-col. 26 line 53).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Shorty into Williams so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 18 Williams teaches a wireless receiver located in the surrounding area of the wireless microphone that receives the transmitted audio signal and plurality of status indicators from the wireless microphone; a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network (see fig.2 and col.7 line 33-col.8 line 67).

Consider claim 19 as best understood with regards to the 112, first problem mentioned above, Williams teaches a wireless microphone system comprising:

a handheld wireless microphone or body pack including an audio management block (see fig.2),

a CPU (reads on microprocessor (52)), a modulator and an output antenna wherein the audio management block changes an audio signal into an electric signal, the CPU

(52) provides coded information about the handheld wireless microphone (66) or body pack and the modulator modulates the changed audio signal by mixing (68) the changed audio signal with a pilot tone(64) and where the CPU digitally modules the pilot tone(64) with the coded information to provide a data where the coded information occupies respective predetermined locations within the data for wireless transmission through the output antenna(see fig.2 and col.7 line 33-col.8 line 67); but Williams does not explicitly teach provide a repeating frame where the coded information occupies respective predetermined locations within the repeating frame for wireless transmission through the output.

However, Shorty teaches a repeating frame where the coded information occupies respective predetermined locations within the repeating frame for wireless transmission through the output (see fig. 5 and col. 18 line 35-col. 19 line 25 and col.25 line 25-col. 26 line 53).

On the other hand, Williams as modified by Shorty teaches the CPU provides coded information about the handheld wireless microphone or body pack and the modulator modulates the changed audio signal by mixing the changed audio signal with a pilot tone and where the CPU digitally modules the pilot tone with the coded information to provide a repeating frame where the coded information occupies respective predetermined locations within the repeating frame for wireless transmission through the output antenna(see fig.2 and col.7 line 33-col.8 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Shorty into Williams so that greatly

improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 20 Williams teaches the wireless microphone system further comprising:

a wireless receiver located in the surrounding area of the handheld wireless microphone or body pack that receives the transmitted audio signal and plurality of status indicators from the wireless microphone(see fig.2 (66)); a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network(see figs.1-2 and col.7 line 33-col.8 line 67).

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Shorty (US PAT. US 6,879,806) as applied to claim 1 above, and further in view of Agashe (US PAT. US 2003/0190924).

Consider claim 6 Shiraishi as modified by Shorty fails to teach that the receiver comprises a diversity receiver.

However, Agashe teaches teach that the receiver comprises a diversity receiver (see page 1 [0006]).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Agashe into Shiraishi and Shorty so that more different kinds of data could have been received by the receiver.

11. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Shorty (US PAT. US 6,879,806) as applied to claim 1 above, and further in view of Casais (US PAT. 6,288,641).

Consider claim 13 Shiraishi as modified by Shorty does not explicitly teach that the receiver of said audio system comprises a master receiver and two or more slave receivers that are operatively coupled to said master receiver, each of said slave receivers including a slave transmitter associated therewith.

However, Casais teaches that the receiver of said audio system (see fig. 1 (10)) comprises a master receiver (52) and two or more slave receivers (54) that are operatively coupled to said master receiver (52), each of said slave receivers (12) including a slave transmitter associated therewith (see col. 4 line 40- col. 6 line 48).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Casais into the teaching of Shiraishi and Shorty so that increased flexibility of remote monitoring system could be to provided to the user.

Consider claim 14 casais teaches that the transmitting step (see fig.1 (10)) comprises the step of transmitting data from the slave transmitter (12) associated with one of said slave receivers to said master receiver (52), and transmitting said data from said master receiver to said central control (42 and see col. 4 line 40- col. 6 line 48).

12. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Shorty (US PAT. US 6,879,806) as applied to claim 1 above, and further in view of Chang (US PAT. 6,337,913).

Consider claim 15 Shirashi as modified Shorty teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a tone signal (fig.3), mixing said combined data/ tone signal with an audio signal, and transmitting said combined data/ tone/audio signal to said receiver (see col. 6 line 13-col. 7 line 42); but Shirashi does not explicitly teach that the said transmitting step comprises the steps of combining data associated with said transmitter with a pilot tone signal, mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver.

However, Chang teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a pilot tone signal (33), mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver (see col. 3 line 63-col. 4 line 12).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Chang into the teaching of Shiraishi and Shorty to achieve a high receiving performance.

Consider claim 15 Chang teaches that the pilot tone signal is at approximately 32 kHz (see abstract).

Response to Arguments

13. Applicant's arguments with respect to claim1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dailey (US PAT. 6,449,491) is cited to show other related method and apparatus for remote control of an audio source such as a wireless microphone system.

15. Any response to this action should be mailed to:

Mail Stop ____(explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501 The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
/Lun-See Lao/
Examiner, Art Unit 2615
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 03-24-2008

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2615